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Human happiness and wellbeing are, to a large extent, dependent upon the health of the individual. Similarly, healthy populations are an important prerequisite for societal progress and prosperity (Marmot et al. 2010; World Health Organization 2015). In order to maximise individual and societal wellbeing, it is important that the health of all members and sections – i.e. irrespective of age, sex/gender, disability, ethnicity, faith or any other protected characteristic – is maximised. A growing body of evidence however points to substantial, persistent differences in health outcomes between different ethnic and religious groups. There is then an imperative to develop societal and healthcare strategies that are responsive to the aspirations and needs of the diverse populations that now characterise the United Kingdom (UK) and many other industrialised countries (see for example Bhopal 2013 or Ingleby et al. 2012 for an overview). Insight into the health of Muslims in Scotland is integral to such efforts. In this chapter, we discuss the health profile of Muslims living in Scotland, outline some of the factors shaping health among this diverse group and consider ways of addressing the healthcare needs of Muslims within the context of Scottish healthcare services.

History and data availability

To understand the current health situation of Muslims in Scotland, it is important, briefly, to appraise the history of Muslim settlement into Scotland. As outlined in chapter XX, migration of Muslims into

various parts of the UK started in the early part of the 19th century with the first wave of migrants being people from the colonies of the British Empire including Yemen, India and Malaya (Malaysia) (Ansari 2004). Since then, migration of Muslims into Scotland has been driven by a need for labour – in particular, in the trade and manual sectors, but also by interests in pursuing education in particular among students from affluent families in South Asia (Ansari 2004; Maan 1992). Today, Pakistanis represent the largest ethnic groups among Muslims in Scotland followed by Indians, Bangladeshis and Arabs. The Scottish Muslim community represents people from a number of different countries and with differing migration histories, ethnic identities and socioeconomic circumstances (The Scottish Government 2011). This diversity has increased further as asylum seeker and refugee communities from across the war-torn Middle East and parts of Africa have settled into Scotland in recent years (Scottish Refugee Council 2013).

Our ability to clearly outline and understand the health profile of Muslims in Scotland is restricted by the limited data available on health status, health behaviours and use of healthcare services by religious group. The 2001 Scottish Census, which included questions on both religious identity and upbringing, and health outcomes, provided the first nationwide quantitative data source for studying the profile of Muslims in Scotland (Office of the Chief Statistician 2005). This was followed by the 2011 Census (National Records of Scotland 2013), which also included questions on religious identity and health outcomes. These census based analyses provide important, yet limited insights. For more detailed analyses, there is still often a need to infer from analyses based on ethnic groups; this is because religious identity is not routinely recorded in health systems. Whilst such analyses can be very important, they have some inherent limitations in making direct inference to religious groups. For example, as most ethnicity-based analyses in the UK and Western Europe have been carried out among

people of South Asian origin, data on more recent migrant groups from Muslim-majority countries are often not available. In the following discussion of health profiles among Muslims living in Scotland, we will, as far as possible, draw directly on data from studies investigating the relationship between religion and health. We will however also need to draw on data from studies investigating the relationship between ethnicity and health; when making such inferences, this will be explicitly stated in the text. Scottish data will be drawn upon wherever possible but we will also include wider UK data in instances where we believe this is likely to offer insights that are transferable to a Scottish context.

Health, disease and faith

To set the stage for this endeavour, it is important to note that health refers not only to the absence of disease or physical impairments such as disability or pain; rather, health – as defined by the World Health Organization (WHO) – covers the physical, mental and social wellbeing of people, thus incorporating complex and ever-changing aspects related to how we feel and engage with others around us (World Health Organization 1948). Expanded a bit further, health also has to do with the capacity to cope with the changing realities of human life, and some might add that spiritual dimensions are also for many people part of a healthy life (Huber et al. 2011; Larson 1996; Grant et al. 2010).

How we as individuals understand health is shaped by a range of factors including our individual life story and experiences with (ill) health, norms within families, cultural aspects and religious beliefs (Ahmed 2008; Kleinman 1988; Padela et al. 2012). Religion can be defined as 'a particular system of faith and worship expressive of an underlying spirituality and interpretive of what the named religion understands of "God" or ultimate reality' (Speck 2011: 110). For the believer, this system of faith – or worldview – guides understandings and behaviours and it provides a means of understanding and

making sense of experiences in life, including illness. When understanding the relationship between Islam and health, it is important to be mindful of the fact that many Muslims have an understanding of Islam that is strongly shaped by local cultural beliefs and practices, which are at times sharply contrasting with the values of Islam. Within the comprehensive tradition of Islam, based on the Qur'an, the sayings of the Prophet and centuries of scholarship, a number of core values can be identified, for example the importance of an existentialist quest for truth, striving for learning and scholarship, being humble and law-abiding, standing up for justice, and serving – all – fellow inhabitants of our shared planet. While some Muslims identify strongly with this grand narrative and seek to fulfil the obligations this entails, others are less deeply engaged with the core tenets of their faith.

Within the Islamic tradition, the Arabic concept of *al-afiyah* is commonly used to describe the multidimensional concept of health. In translation, this concept encompasses safety from disease, grief and troubles, thus emphasizing the dimensions covered by the WHO's concept of health and adding spiritual well-being. Among Muslims, religion may be reflected or translated into a wide range of practices, these including the five daily prayers, in dietary practices such as fasting during the month of Ramadan, and in avoidance of substances and practices that are considered to be forbidden (for example substance abuse or extra-marital sex). In addition, Islam encourages Muslims to be physically active, to avoid excessive eating, to regularly reflect upon and seek to restore mental and spiritual wellbeing and to be constructive members of society. These practices have the potential decrease the risk of adverse health outcomes through promoting healthy lifestyle choices and fostering mental health. In its approach to public health, Islam builds upon the principle that public interests often take precedence over private ones, thus emphasising the need to also take measures to promote societal well-being (Rathor 2011).

How people understand and explain illness may also be shaped by religious beliefs (Ahmed 2008; Padela 2012). From an Islamic perspective, illness and ultimately death are perceived to be in accord with the will of Allah, and these major life events are thus predetermined as part of the journey of this life (Kristiansen and Sheikh 2012; Winter 2008). Illness and the suffering this may entail are perceived to be a potential source of reward in the Hereafter and Muslims are - from a religious point of view - encouraged to find meaning and comfort in the belief and trust in the mercy of Allah (Khan 1996). The belief that illness and its outcome for the person is ultimately determined by a divine power does not in any way exclude the role of the individual person in seeking to maintain good health and/or seek treatment. Religious guidance and rulings seek to protect health and wellbeing for example through avoidance of smoking, alcohol, drugs, poor diet and unsafe sex, as outlined above (Padela and Curlin 2013). Also, a number of different approaches to promote well-being are encouraged within Islam. This includes intake of honey that is recommended for its healing properties, spiritual practices such as prayers and reciting verses from The Qur'an, fasting, and engaging more intensely in doing good such as voluntary almsgiving and helping others (Ahmed 2008). In terms of restoration of health and coping with disease, Islam strongly encourages Muslims to seek treatments through mainstream healthcare services and to follow treatment plans outlined by medical doctors (Ahmed 2008; Padela and Curlin 2013). Agency is central to Islam as each person is individually responsible for his or her actions in this life and will be held accountable for this after death. Health is regarded as a divine trust and avoidance of behaviours compromising the health and wellbeing of self and others, and taking timely steps to maintain good health are thus very important within the Islamic ethos.

Moving beyond health behaviours and responsible self-management of the individual person, Islam also influences the role of family and friends in supporting the sick. Visiting the sick is a particularly meritorious practice in Islam and the involvement of large numbers of close and more distant relatives and friends, particularly for critical ill patients, is often noted by healthcare professionals as a source of valuable social support, although large numbers of visitors may at times be at odds with the needs of other hospitalised patients and the routines at the hospital ward (Kristiansen and Sheikh 2012). Social support provided by members of the religious community may consist of reciting key verses of The Qur'an, praying, offering condolences, preparing food and taking care of children, thus entailing valuable support for the patient and his/her family. However, for Muslims living in Scotland, this availability of supportive networks should not be assumed. Through the process of resettling into Scotland, family networks may have been dispersed, sometimes across several countries, and some, in particular recent migrants and those from smaller ethnic groups may find themselves in a situation with few contacts to the wider Muslim community (Kristiansen et al. 2010).

The role of religious beliefs in explaining and managing illness has been the subject of a large number of studies in Muslim countries as well as in Western countries (Inhorn and Serour 2011; Padela and Curlin 2013; Kristiansen et al. 2014; Mir and Sheikh 2010; Mygind et al. 2013). In a Scottish context, and through interviews with South Asian Muslim patients with life-limiting illnesses, their relatives and key healthcare professionals, ways in which religious beliefs shaped the end of life experience among patients were identified (Kristiansen et al. 2014; Worth et al. 2009). The study showed that for those who were conscious of their religious identity and found this important for their outlook on life, religious beliefs helped them make sense of their progressive illness. Their faith served as a source of

hope that enabled them to live with the many personal and social consequences of severe illness, partly due to a belief in God as a source of healing, partly because the belief in an after-life helped them uphold a vision of an after-life. In terms of self-management, the study found that conventional medicine was combined with religious practices such as prayers. Prayers served as ways of communicating with Allah and through this ask for cure, relief of symptoms or more time with relatives, that emerged as a strong need, particularly in those who had young children. In terms of access to social support from religious communities, South Asian patients reported limited access to supportive networks, at times due to the stigma attached to severe illness, and the lack of room for voicing grief and frustration related to the experience of living with a progressive and untreatable illness (Kristiansen et al. 2014). At the same time, a substudy among Muslim participants who were parents of young children, reported unmet needs for support from mainstream health and social care services in Scotland (Gaveras et al. 2014). These studies thus underscore the need not to assume that Muslims are embedded within resourceful religious communities.

As noted above, for those Muslims who engage actively with their religious beliefs and practices, Islam often has a considerable influence on the ways in which they perceive and manage health and disease (Ahmed 2008; Padela 2012; Padela and Curlin 2013). However, among the diverse group of Muslims in Scotland, the value placed upon religious identity and the importance of Islamic teachings for everyday life obviously may be more limited and fluid.

Faith in context: diversity and contextual factors shaping health

As described, Islam as a religious outlook can shape how Muslims perceive health and illness, how people behave in relation to the multiple factors that shape health, such as substance abuse, physical activity or diet, and the ways people cope with illness and seek healthcare. However, it is important to be aware of the great diversity within the Muslim community in Scotland and the multitude of contextual factors that influence their health status: Islam is one such factor. To understand the discrepancy between the principles, values and behaviours encouraged by Islam as a faith-based framework, and the health profiles of Muslims in Scotland, we must therefore understand the intersecting and overlapping factors at play at the personal level and in communities as well as structural factors operating at a more distant level.

Muslims have in common a religious worldwide based on common core beliefs as outlined in the Qur'an. However, the meaning carried by religious identity and the ways faith shapes health and disease naturally differs between people and even within the life course of any individual person. This is informed by the personal beliefs and interpretations of the tenets of faith by each person, but it is also shaped by context-factors such as ethnic and/or religious identity and the behaviour and values of people in one's social relationships (for example family, friends) in addition to individual experiences such as the diagnosis of a fatal disease and the associated need for trying to make sense of illness and death. As mentioned earlier, a range of cultural values and practices are evident among Muslims and may influence health and well-being. This includes for example consanguineous marriages that is relatively common within the Pakistani group and has been linked to adverse birth outcomes, and

intake of khat – a narcotic substance commonly used among men of Somali origin (Khatib et al. 2013). Also, wider societal phenomena, such as marginalisation and discrimination, may influence the importance and understanding of religious identity and the ways in which religious minority groups engage with society, including healthcare institutions. This is because religious identity is simultaneously an internal, fluid process of making sense of the world and one's place in cosmos, while it on the other hand is a socially constructed category shaped by interactions with the wider society and with consequences for people's actions and possibilities. As such, (visible) religious identity such as wearing the *hijab* (head covering) or having a name perceived to be signalling Muslim faith may carry implications for the individual person in everyday life and in encounters within healthcare services (Johnson et al. 2004). For example, studies in the United States of America (US) describe how the Muslim population, after the 9/11 terrorist attack and in its aftermath the increased US' military presence in the Middle East, became subject to negative stereotyping and discrimination and through this process moved from being invisible citizens assimilating into the wider society to being visible subjects of media and political discourses (Howell and Shryock 2003; Jamal 2008). Such societal processes have in some cases led to an increase in intolerance and discrimination towards Muslims in the West perpetuated by processes of segregation for example in residential areas and schools. In a study into experiences of discrimination and religious intolerance among Muslims in Scotland, drawing on a literature review, focus groups and a survey, the authors concluded that Muslim communities reported increased experiences of religious discrimination following the terrorist attacks in New York and London, and that this experience was compounded by perceived racial discrimination (The Scottish Government 2011). The same study found that although religion was important to their identity, Muslims in Scotland were more likely to identity as Scottish compared with Muslims in England identifying as English (The Scottish Government 2011). However, experiences of being "othered" or

singled out based on their religious faith in some instances led to segregation for example in terms of friendship and residential areas, based on ethnicity and religion (The Scottish Government 2011). Complex historical and socio-political processes may thus lead to negative stereotyping and religious profiling, and create boundaries between mainstream society and Muslims with implications for health, for example lack of trust in healthcare professionals impeding timely access to healthcare or exposure to stressful events such as discrimination or hate crimes that may negatively influence mental health (Ahmed et al. 2011; Howell and Shryock 2003; Inhorn and Serour 2011; Sheridan 2006). Both Scottish and other European studies point to similar developments in terms of increased experiences of discrimination that is fuelled by the current debate on the presence of Muslims in Western Europe, and as such influenced by larger global developments such as terrorist attacks, Middle Eastern conflicts and the recent changes in refugee/migration patterns into parts of the European Union (Hopkins and Smith 2008; Hussain and Miller 2006; Qureshi and Moores 1999). Nevertheless, for many Muslims who have migrated to or are born in Western countries, the experiences and realities of everyday life are largely positive despite the processes of potential stigma and discrimination that some perceive as outlined above. Being part of democratic societies with protection of human rights and comprehensive access to a range of important welfare services, including education opportunities, social benefits and healthcare services, is of utmost importance and often leads to increased levels of education, not least for descendants of migrants, greater economic prosperity and possibly increased life expectancy (Kristiansen et al. 2007; Kristiansen et al. 2015; Page et al. 2007).

In addition to the varying importance of Islam for Muslims, the Muslim community in Scotland is also very diverse in terms of a range of factors that influence health behaviours, health status and encounters

with healthcare services. Of particular importance is the ethnicity and socioeconomic background of the individual person. Ethnicity is a multi-faceted construct used to describe groups of people who identify with or are perceived to belong to a certain group due to for example shared language, geographical origin or cultural traditions (Bhopal 2004). Among Muslims in Scotland, a range of different ethnic groups can be identified, with the main groups being Pakistanis, Bangladeshis and Indians, more recent migrants from Middle Eastern and African countries, but also converts of Scottish origin (The Scottish Government 2011). This ethnic diversity is important to take into consideration when describing and explaining health behaviours and health status among Muslims in Scotland. The link between ethnicity and health is complex and multifactorial (Winkleby and Cubbin 2004). Health behaviours and health status vary substantially across different ethnic groups, often due to a complex interplay between cultural factors, such as dietary practices or physical activity patterns, contextual factors such as socioeconomic background and residential area characteristics (for example deprivation, inadequate access to services) and individual factors such as language competencies shaping the ability to understand and use information and available services that promotes and maintain good health (health literacy) (Bhopal 2013; Kristiansen et al. 2007; Marmot et al. 2010; Winkleby and Cubbin 2004). Poor levels of health literacy may lead to less optimal health behaviours, poorer health status and limited opportunities for obtaining high quality healthcare (Kickbusch 2001; Nutbeam 2008; Pleasant 2014). For example, inability to read and act upon written information on how to lower risks for diabetes or how to access a range of medical services may negatively affect health. Language barriers are of course often most pronounced among newly arrived migrants but may as well be present among refugees suffering from posttraumatic stress syndrome (PTSD) following traumatic events during time of war and among people who lack education (Teodorescu et al. 2012). The availability of

interpretation facilities with different sectors of Scottish healthcare services is important for these groups as it helps to ensure their equal access to high quality services.

A further factor contributing to the diversity in health among Muslims in Scotland is related to socioeconomic background and psychosocial resources among this community, including social capital. Socioeconomic background refers to the level of education, income and employment among people and it is closely related to health behaviours and health status (Marmot and Wilkinson 2001; Whitehead and Dahlgren 1991). In general, the lower the socioeconomic background, the higher the risk of poor health (Marmot et al. 2012). This so-called social gradient in health often explains the differences in health status across ethnic/religious groups (Karlsen et al. 2012). Muslims in Scotland are disadvantaged on a number of socioeconomic parameters. According to census data, Muslims achieve lower levels of educational compared to other religious groups, have the lowest employment rate, and in particular Muslim women are more likely than women of other religious backgrounds to be unemployed (National Records of Scotland 2013; The Scottish Government 2011). Rates of self-employment are particularly high among Muslim men with more than a third being employed in the wholesale and retail trade. In addition, Muslim households have the lowest overall wealth compared to other religious groups in the UK, and Muslims are more likely to live in the most deprived areas of Scotland (National Records of Scotland 2011). This finding may at least in part be explained by the bi-directional relationship between health and income since higher levels of long-term illness among older Muslims and lower educational level among younger groups contribute to the tendency to live in deprived areas (National Records of Scotland 2011). Although there is therefore evidence of socioeconomic disadvantage among Muslims in Scotland, some studies argue that the Muslim

community, in particular of South Asian origin, fare comparatively better in Scotland than is the case in the UK (Hopkins and Smith 2008; Hussain and Miller 2006; Maan 1992; Masud 2005). This is partly due to differences in diversity and distribution of ethnic minority populations, and the relatively middle-class status of Muslims in Scotland compared to those living in England. However, it is also related to the particularities of Scottish identity, history and politics which has made Muslims in Scotland more likely to identify as Scottish since their religious identity is primarily seen as cultural and not territorial (Hussain and Miller 2006; Masud 2005). Scottishness and Muslim identity are complex constructs partly related to self-perceived identity and feelings of belonging, partly related to how other's perceive one's identity and its (in)compatibility with larger notions of national identity. This dual relationship is illustrated by a qualitative study in a multi-ethnic Scottish neighbourhood, which highlighted how being seen by others as Scottish was not dependent upon personal religious beliefs and identity, but rather could be hindered by exhibiting certain behaviours and cultural codes, for example through wearing hijab which appeared to be contrasting with Scottishness (Virdee et al. 2006). Furthermore, in a recent study of self-conscious Muslim identities in Scotland, Bonino (2015) concludes that although the global stigmatisation of Muslims in the post 9/11 period had local ramifications in Scotland, it generally appears as a place of religious tolerance positive towards its Muslim population. Through qualitative fieldwork in Edinburgh among an ethnic diverse group of Muslims, Bonino found that younger Muslims display a strong affiliation to Scotland that further strengthen the notion of inclusive Scottishness that accommodates visible Muslim identities.

The relationship between socioeconomic background, religious identity and health among Muslims in Scotland is complex and changes with time. Muslim students rank high among those studying full-time

in Scotland which may point to future increased educational attainment levels and employment rates among this group, thus indicating upwards social mobility with time (National Records of Scotland 2013; The Scottish Government 2011). However, at a European level, Muslims - and in particular the younger age groups - have been shown to have limited opportunities for social advancement, partly due to the social exclusion, but also shaped by the financial crisis, which may be a contributing factor to the feelings of hopelessness and alienation that exist amongst certain groups of Muslims (European Monitoring Centre on Racism and Xenophobia 2006).

In terms of psychosocial resources among Muslims in Scotland, individual and social factors related to personal resilience and coping strategies, social networks and experiences across the lifespan of the person may influence health status, health behaviours and encounters with healthcare services. Muslims are according to the 2001 Census less likely to be divorced and more likely to live in larger households than other religious groups in Scotland (The Scottish Government 2011). Extended families often comprise a valuable source of practical support in everyday life and for those who are ill, but social roles and obligations may as well be a strain on the individual person, in particular for Muslim women (Gaveras et al. 2014; Dhami and Sheikh 2000). Responsibilities for the well-being of extended families may hinder the ability to maintain health, for example through regular physical activity, and to seek healthcare if symptoms arise, for example in terms of participation in screening programmes (Kessing et al. 2013). Financial obligations, for example sending remittances to family members in the country of origin, may be an additional responsibility for breadwinners of the family, in particular for newly settled migrants with refugee status thus reducing their financial capability to for example prioritise memberships of gyms (Kessing et al. 2013). Psychosocial vulnerability for example resulting from

exposure to trauma among refugees or competing priorities within extended family networks, reduces engagement in health promotion activities and negatively affects the ability to cope with disease, thus shaping health status and healthcare utilisation (Michealis et al. 2013). In addition, both Scottish and international studies of Muslims illustrate how in particular recent migrants and those with potentially stigmatising or life-limiting illnesses may be socially isolated and correspondingly are in need of formal social support for example from health and social care professionals and patient associations (Gaveras et al. 2014; Kristiansen et al. 2014; Worth et al. 2009). Thus, although Muslims generally are embedded within larger families and wider social networks, the availability of social support should not be taken for granted.

Finally, factors operating at the community level may contribute to the health of Muslims in Scotland. Whereas close-knit communities in neighbourhoods with large numbers of Muslim families may facilitate social support and access to local resources such as mosques, restaurants serving halal foods and other services catering for the particular needs of Muslims, thus building social capital and facilitating access to culturally appropriate services, these neighbourhoods may also have negative health effects. Research conducted in England finds Muslims to be disproportionately more likely to live in so-called deprived areas characterised by inadequate housing (for example overcrowded, lacking central heating), low incomes and high proportions of unemployed inhabitants, poor infrastructure and inadequate investment and action by local and national governmental actors (Choudhury et al. 2005; Jayaweera and Choudhury 2008). In particular for children and adolescents, growing up in such neighbourhoods may pose a risk to their health due to for example lack of safe areas to play and exercise, inadequate role models facilitating educational attainment, and socialisation processes leading

to normalisation of unhealthy behaviours such as smoking and drug abuse (Simons-Morton and Farhat 2010).

Disease burden and health behaviours

As discussed above, health is shaped by a wide range of individual factors and by factors operating in the immediate and wider social contexts. Furthermore, great diversity exists in health status across different ethnic groups related both to genetics, health behaviours and exposures to health risks across the life course of the individual person (Bhopal 2013; Kristiansen et al. 2007; Norredam 2015a; Spallek et al. 2011). For example, some refugee groups and asylum seekers may have been exposed to, for example, high rates of infectious diseases, malnutrition and traumatic experiences in the country of origin and/or during migration that influences their life-long risk of illness. Studies among refugees fleeing to Europe have found inadequate rates of vaccination coverage upon arrival, poor mental health and a higher burden of infectious diseases to be relatively more common among refugees, many of whom have fled wars and unrest in the Middle East and in the process have been exposed to periods of insecurity and lack of appropriate preventive care and medical treatment (Norredam 2015a; World Health Organization 2015). Furthermore, poor mental health has been found to be a concern among a range of ethnic minority groups including residents of Muslim origin in the UK and across Europe (Inhorn and Serour 2011; Laird et al. 2007; Norredam 2015a). Psychological distress is related to a range of individual and contextual factors including stressful events related to for example experiences of assault, overcrowding, low standards of living, and absence of family and confidants that may be more common among Muslims of lower socioeconomic background or refugees (Bogic et al. 2015; Karlsen et al. 2012; Kristiansen 2011).

As discussed above, Islam encourages certain behaviours which impact on health whereas others are prohibited. Studies into health behaviours among Muslims in Scotland illustrate how health behaviours, although shaped by religious identity, are also influenced by intersecting factors such as gender, age, ethnicity, socioeconomic background and societal dynamics. A qualitative study among South Asians aged 16-26 years in Glasgow for example illustrated how Muslims' abstinence from alcohol was strongly linked to their Islamic identity; this sense of identity was seen as being jeopardised by drinking alcohol (Bradby 2007). Although most Muslims abstain from drinking alcohol, the study showed that many of the Muslim men, who were drinking, would be hiding their intake of alcohol in order to protect their claim to be Muslim. Although the interviewees acknowledged the religious obligation to guard one's health and avoid wasting money, they perceived cigarette smoking to be less problematic than drinking alcohol. Gender differences, conflicts between young people and the older generations, and social control featured strongly in the findings among the South Asians interviewed in Glasgow as the risk of gossip and damage to reputations were strongly felt among young Muslim women. While substance abuse was seen to tarnish the reputation of both young men and women, the reputation of young men could in some cases be restored by the parents' status within the community whereas damage to women's reputations were much more difficult to repair (Bradby 2007). Religious and gender differences have also been found in other studies of risk behaviours related to alcohol intake. For example, a questionnaire study among pupils aged 14-15 years and with follow-up four years later found that religiously specific patterns of abstaining from alcohol were particularly high among Muslims and that women of South Asian origin observed this pattern of behaviour more than men (Bradby and Williams 2006). Also, studies on key health behaviours among Muslims in Scotland associated with cardiovascular diseases, diabetes and different types of cancers find that in particular South Asians are less likely to drink alcohol and smoke whereas lack of physical activity, low

consumption of fruit and vegetables and intake of a diet high in fat is relatively more common among these groups compared to the general White Scottish population (The Scottish Government 2012).

Self-rated health is a measurement found to be strongly related to future health problems and mortality (Heistaro et al. 2001: Kaplan et al. 2007). According to the Scottish Health Survey, Muslims are among the most likely to rate their health as poor (The Scottish Government 2012). In the Muslim group, 70% of respondents rated their health as 'very good' or 'good' which is lower than the Scottish average (76%) and considerably below the findings among other religious groups such as Hindus (92%).

The burden of different types of diseases varies substantially between ethnic groups, as outlined above. A large quantitative study exploring ethnic differences in development of cardiovascular disease among patients with type 2 diabetes in Scotland found people of Pakistani origin to be at higher risk of developing this health problem compared to White Scottish people (Malik et al. 2015). As is the case in the general population, and in particularly among elderly people, multimorbidity, or the co-existence of more than one health problem, is common among Muslim groups in Western contexts (Barnett et al. 2012; Norredam et al. 2015b). The Scottish Health and Ethnicity Linkage Study (SHELS) has provided strong and generalizable results based on data from 4.65 (out of 4.9) million people included in the 2001 Census of Scotland that has been linked to registries representing nine years of National Health Service (NHS) Scotland hospitalisation and death records. In terms of cancer burden, this study found Pakistanis to be less likely to develop a range of cancers including cancer of the lung, breast, prostate and colorectal system (Bhopal et al. 2012). Also, looking into upper gastrointestinal diseases among

different ethnic groups in Scotland, the study found comparatively higher rates of oesophagitis among Bangladeshi women, higher risks for gallstone disease and pancreatitis among Pakistani women, and higher rates of Crohn's disease among Pakistani men compared to the White Scottish group (Bhopal et al. 2014a; Cezard et al. 2015). Limited evidence exists regarding the burden of respiratory diseases among Muslims in Scotland, however Pakistani men and women were found to have higher risks for respiratory disease compared to the majority population in the comprehensive SHELS study (Bhopal et al. 2015). Ethnic variations in the burden of lower respiratory tract infections were found in the same cohort with Pakistani men having a higher risk of being hospitalised for this adverse health event but with higher changes of survival compared to the White Scottish population (Simpson et al. 2015). A study into ethnic variations in asthma hospital admission, readmissions and death in Scotland found Pakistanis to be at increased risk of being hospitalised for asthma which may reflect variations in the quality of primary care provision or differences in cultural factors shaping self-management and health-seeking behaviours among Pakistanis with asthma compared to the White Scottish population (Sheikh et al. 2016).

Finally, some infectious diseases are relatively more common among South Asians. This goes for Hepatitis C virus that is related to liver disease and has been found to be common among South Asians, partly due to transmission through medical treatment obtained in South Asia (O'Leary et al. 2013). The Scottish Health Survey found Muslims to be most likely to have good dental health as measured by number of natural teeth among respondents (The Scottish Government 2012).

Although the health profiles of Muslims in Scotland differ somewhat compared to the White Scottish population, changes do occur with time and across generations as exemplified by the study on alcohol and smoking behaviours among adolescents in Glasgow and in studies of changing dietary patterns and

sedentary lifestyles among Muslim groups settling in Europe (Bradby and Williams 2006; Smith et al. 2012; Spallek et al. 2011). Studies of the so-called healthy migrant effect also indicate that the lower risk of for example developing cancers among many ethnic minority groups in Europe is lost with time due to changes in health behaviours, such as smoking and sedentary lifestyles, but also due to exposures to different contextual risk factors (Norredam et al. 2014; Spallek et al. 2011).

The majority of studies into health among Muslims in Scotland have focused on the South Asian group and thus less is known regarding the health status of smaller, less established ethnic groups. Nevertheless, diversity in health profiles across religious groups is relevant to policy makers and practitioners as different risk profiles may have implications for prevention, screening and clinical care. An example of this is current discussions on the relevance and cost-effectiveness of population-based mammography screening programmes that often have low participation rates among Muslim groups, and in a Scottish context particularly among women of South Asian origin (Bansal et al. 2012; Kristiansen et al. 2012). Although disease rates vary considerably within the group of Muslim women of different ethnic backgrounds, these groups have been found to have low risk of developing breast cancers and higher risks of developing for example diabetes, certain infectious diseases (such as tuberculosis and hepatitis among some refugee groups) and poor mental health that could be addressed in screening-programs tailored to the particular disease profile among groups of Muslim (Bansal et al. 2012; Norredam 2015a). However, with disease rates often converging towards the risk in the White Scottish majority population, it is important to ensure that health services, including screening programs, are accommodating the diversity in disease risk across the entire population.

Finally, mortality in Scotland has been found to be lower among people of South Asian origin compared to the majority population although precise estimates of mortality differences are difficult to achieve due to the small number of deaths among South Asians (Millard et al. 2015). The observed lower mortality among both South Asian males and females is partly explained by the relatively younger age profile of this group (The Scottish Government 2011). However, with time adaptation of health and social care services to meet the needs of an aging group of Muslims will be needed as has happened in England and some parts of mainland Europe.

Seeking healthcare in Scotland

Concern has been raised regarding the access to and quality of healthcare services for Muslims and other ethnic/religious minorities in Europe based on studies indicating differences across groups (Bhopal 2013; Ingleby et al. 2012; Karlsen et al. 2012). Access concerns dimensions related to entitlement, that is, whether these groups have formal rights to services for example through comprehensive health insurance schemes, but it also relates to the ability of the individual person to seek appropriate healthcare when in need. Inequities in health and healthcare refer to the presence of systematic and potentially avoidable differences in health status or access to and outcomes of healthcare among population groups defined according to for example socioeconomic background, geographical area or ethnicity (Starfield 2011). Inequity in health and healthcare continues to be the focus of a large body of research, numerous national and international policies and a wide range of interventions targeting individual, contextual and system related factors shaping health and healthcare utilisation.

In Scotland, healthcare is mainly provided by NHS Scotland thus enabling all permanent residents to access care that is free at the point of need; this is funded through general taxation. Prescribed medications are also available free of charge. Private healthcare and a range of alternative and complimentary treatments can be purchased through private providers. As such, there is little reason to believe that Muslims are disadvantaged from seeking healthcare per se, although language barriers, health illiteracy, lack of social networks facilitating access to timely care and insecurities related to interfaith encounters on part of both patients and providers do constitute barriers that may affect access to care for Muslims (Kristiansen et al. 2014; Gaveras et al. 2014; Smedley et al. 2003). In terms of quality of healthcare services, studies have found that outcome data such as mortality and readmissions following hospitalisation for respiratory disease was similar to or at times lower than those found among the White Scottish population, this indicating that inequity in hospital healthcare provision is unlikely to be a major concern in Scotland (Bhopal et al. 2015). Similar findings have been reported for acute myocardial infarction where Pakistanis were found to have the highest burden of disease, but with similar or even better chances of survival and with no differences in cardiac intervention at hospitals compared to the general population (Bansal et al. 2013). There is however likely to be greater variability in the quality of primary care provision.

A number of studies have explored experiences with illness and access to healthcare services among Muslim groups in Scotland. In a combined survey and focus group study with Muslims, Sikhs and Hindus in Scotland's major cities, there was a high level of satisfaction with NHS services, although

Muslims were more likely to report problems of religious or ethnic discrimination in the NHS (Love et al. 2011). A qualitative study among South Asian Sikh and Muslim patients living with life-limiting illness, their families and healthcare professionals involved in their care highlighted key barriers to the provision of responsive, culturally appropriate care (Worth et al. 2009). These included resource constrained services, instances of institutional discrimination and limited awareness and understanding among the South Asian group of the role of hospices. Professionals perceived challenges in providing care for Muslims related to insecurity for example as to how to raise the issue of death and the availability of support within extended families and the religious community, pointing to the need for increased awareness and support in case management within healthcare institutions (Gaveras et al. 2014; Kristiansen et al. 2014; Worth et al. 2009).

Muslim health in Scotland: reaching the goal of equality

In 2002, the Scottish Executive (now Government) through the Health Department launched the Scottish Health Act 'Fair for All' with the aim of ensuring that services provided by NHS Scotland were responsive to the needs of individual and communities – including ethnic minorities (Scottish Executive 2002). This policy and the initiatives it has sparked underpins the Scottish Government's on-going commitment to meet the diverse health needs of the Scottish population irrespective of differences related to for example age, gender, socioeconomic background, sexual orientation or religious and ethnic identity. By promoting an advanced and comprehensive response to ethnic and religious diversity, and by making public organisations accountable for achieving equal care for all, Scotland is at the forefront of European policy-making in response to inequality in health (Lorant and

Bhopal 2011). Through a process of taking stock of the current situation and identifying good practices related to service provision for faith and ethnic minorities within NHS Scotland, a number of systemic, mutually reinforcing recommendations were made and performance indicators were developed as part of the initiative to make NHS Boards accountable for documenting progress. Recommendations include a need for a strategic and coherent approach so that efforts to meet the needs of disadvantaged and increasingly diverse groups become part of organisations' mainstream activities; awareness raising at all institutional levels within NHS Scotland; more focus on needs assessments, facilitating better understanding and dissemination of good practices; facilitation of partnerships and cross-agency collaborations; engaging in dialogue with communities and building their capacity; and recruiting more ethnic minority staff (Scottish Executive 2002). This comprehensive strategy lay an impressive foundation for future policy and practice development in Scotland, and combined with strong research groups working within the field of ethnicity and health across Scotland, the coming years will likely witness interesting progress towards reaching the goals of the policy. The strategy has later been reinforced by the UK Government's Equality Act from 2010 (The UK Government 2010).

In terms of identifying ways to move forward, the body of research into health behaviours, health status and quality of healthcare among diverse ethnic and religious groups in Europe has increased substantially in recent decades with strong participation from The University of Edinburgh's Edinburgh Migration, Ethnicity and Health Research Group (EMEHRG). Studies have explored how to promote smoking cessation and prevent diabetes among South Asian groups in Scotland (Begh et al. 2011a; Begh et al 2011b; Bhopal et al. 2014b; Douglas et al. 2013; Morrison et al. 2014; Wallia et al. 2014). However, we are still lacking robust insight into how to successfully address inequalities in health and

living circumstances across increasingly diverse religious and ethnic groups. As health and disease are shaped by a range of exposures and behaviours across the life course of the individual person, there is a need for early interventions focusing on promoting and supporting healthy behaviours and cultural resources in minority groups and preventing risk behaviours that lead to higher disease burden among Muslims in Scotland. This needs to include identifying how to increase physical activity levels and intake of healthy diet among Muslims, but also how to maintain the lower prevalence of smoking generally found among Muslim women in younger generations. Health promotion interventions could also build upon cultural resources among religious communities, including both the social networks revolving around for example mosques and other meeting places, but also explore the potential importance of drawing on Islamic values and principles in for example interventions against smoking, gender-based violence or stigmatisation of people suffering from mental illness (Ghouri et al. 2006). Although few robust intervention studies have been carried out among Muslims in Scotland to date, general lessons can be teased out based on the large bulk of knowledge related to principles for public health interventions. In particular, there is a need for combining individual-oriented health interventions focusing on increasing awareness and skills of the person with more comprehensive community-based, structural interventions aiming to ensure that social networks processes, private and public service providers and the built environment of communities facilitate healthy living. A multi-sectorial approach is often needed when combining interventions at the structural and the individual level, thus necessitating involvement of a range of sectors including primary healthcare, urban planning, educational institutions, and non-governmental and private partners such as faith-based associations or private companies in a particular community. The importance of holistic approaches to health promotion was underscored in an interview study among men and women of Bangladeshi-, Indian- and Pakistani-origin living in urban settings in Scotland seeking to elucidate key factors

motivating and facilitating physical activity, thus pointing to ways of designing successful interventions and services for these groups (Jepson et al. 2012). The importance of social contextual factors and motivators for health behaviour appeared central, as engaging in physical activity, for example through football and the gym for men, and walking and swimming for women, was motivated by the opportunity for social activity and enjoyment this entailed. Role models were perceived to be important as these would be able to inspire and motivate people to engage in physical activity. Thus, group based physical activity interventions facilitated through religious, community, friendship or family networks could be relevant for this target group (Jepson et al. 2012).

Community-involvement is key to successfully addressing the multitude of individual and contextual factors framing the everyday life of Muslims in an inclusive way. As Muslim communities are unevenly distributed across Scotland, focusing on areas with large numbers of Muslims would be advisable in addition to ensuring that the expected increasing numbers of migrants and refugees from war-torn areas in the Middle East and Africa are also included in interventions. In general, timely and comprehensive user and community involvement is important both in research and service delivery as involvement through for example needs assessments and consultations may support identification of key areas to address and the appropriate ways of doing so (Davidson et al. 2013; Johnson 2012; Liu et al. 2012). Communities may be defined according to geographical anchorage for example by working with mosques and more informal faith-based centres that for many devout Muslims are important settings gathering large groups of people. A range of religious and more "mundane" activities are organised in these settings including communal prayers (the five daily prayers, the Friday prayer, prayers at the end of festivities including the holy month of Ramadan and funeral prayers for the

deceased) and Arabic and Islamic classes for children, but mosques may also serve as entry points in reaching the Muslim community for different health-related activities. An example of this took place in the Edinburgh Central Mosque in 2003 (Ghouri 2005). A health fair was developed in close collaboration between local health authorities and representatives from the mosque, thus building upon recommendations set out in 'Fair for All', and in particular the need for closer involvement of groups and organisations within ethnic minority communities in provision of services for these groups. Based on the health profile of the Muslim community, the fair focused on diabetes, high blood pressure, healthy eating and oral hygiene in addition to disseminating information on cancer and local community services. The involved researchers concluding that the intervention was well received with strong participation across the community, thus highlighting the potentials for community-based services anchored within mosques or other religious community settings. However, given the cultural, linguistic and socioeconomic diversity among Muslims in Scotland, involvement of the target group for an intervention is not straightforward. Awareness of interest groups and power dynamics within more or less well-established and identifiable groups of Muslims and the associated risk of excluding some whilst including others is therefore important.

Guidelines for adaptation of health promotion interventions for ethnic minority populations point to a number of recommendations, again underscoring the importance of extending the focus beyond individual-centred interventions to also include community- and ecological-level dimensions (Davidson et al. 2013). Although the evidence-base for how to deliver effective interventions among Muslims is lacking, the literature suggests ways of adapting interventions throughout the various intervention phases, including the need for conducting formative work with the target population, the

importance of involving religious and spiritual leaders, recruiting from formal and informal networks, focusing on family-level approaches of high intensity, and addressing physical and financial barriers affecting participation in the intervention. In addition, guidelines highlight the potential of utilizing the mother-tongue language of the target group, encouraging social support and ensuring the use of validated measurement tools in evaluating the effect of interventions (Davidson et al. 2013; Liu et al. 2012; Nierkens et al. 2013; Wallia et al. 2014).

Ensuring timely diagnosis and access to high-qualitaty, coordinated patient-centred care is central to addressing ethnic inequality in health. Although little evidence exists for lack of access to such services in Scotland, continued focus on ensuring awareness of relevant health and social care services and help in overcoming language barriers is important in particular for women, and newly arrived migrants and refugees (World Health Organization 2015). This also entails focus on provider and organisational dimensions as it is important to ensure that individual healthcare professionals and the organisations in which healthcare encounters take place are able to provide culturally sensitive care. This involves continued focus on raising awareness of the importance of attending to cultural, religious and ethnic diversity in healthcare encounters and skills in doing so, for example as outlined in the literature on cultural competency training for healthcare staff (Fleckman et al. 2015; Kleinman and Benson 2006). It also relates to the need for provision of religiously appropriate food for different groups, translation of material for patients and relatives, and an openness towards and awareness of the role that religious beliefs may play for the individual patient (Kristiansen et al. 2014; Scottish Executive 2002). Besides provision of patient-centred, holistic care within healthcare facilities, psychosocial support for patients

and carers must be ensured in the local community context and during periods of hospitalisation (Gaveras et al. 2014; Kristiansen 2011; Mir and Sheikh 2010).

Whilst Scotland is surely at the forefront of ensuring policy-development for addressing the needs of religious minorities, there is still a need for ensuring that data on health behaviour, health profile and outcome of healthcare services are systematically and reliably collected and broken down according to religious, ethnic and socioeconomic group in addition to key characteristics such as age and gender. This will enable continued research identifying unmet needs as well as successful developments but it is also important for accountability and transferability of the Scottish experience to other countries.

Conclusion

We have in this chapter discussed how Muslims in Scotland constitute a very diverse group in terms of health behaviours, experiences and outcomes. While some overall patterns may be observed, some of which are directly influenced by Islamic values guiding behaviour, for example related to the low intake of alcohol, many other aspects of behaviour and ultimately health outcome are shaped by a complex interplay between religion, culture, socioeconomic background and more contextual community and societal factors. The Scottish Government is strongly committed to reducing inequalities in health and healthcare outcomes across different religious, ethnic and socioeconomic groups in Scotland, and the framework provided by the 'Fair for All' report – in combination with the UK Equalities Act 2010 - constitutes an excellent and unique opportunity to improve the quality of care

provision for Muslims as well as other faith groups, and indeed the wider community of which they are part (Scottish Executive 2002; The UK Government 2010).

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